

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte RICHARD BAXTER HULL, BHARAT KUMAR, FRANCOIS
LLIRBAT, and GANG ZHOU

Appeal 2007-1810
Application 09/251,998
Technology Center 2100

Decided: October 22, 2007

Before ROBERT E. NAPPI , JEAN R. HOMERE, and
ST. JOHN COURTENAY III, *Administrative Patent Judges*.

HOMERE, *Administrative Patent Judge*.

DECISION ON APPEAL
STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134 from the Examiner's final rejection of claims 1 through 21. We have jurisdiction under 35 U.S.C. § 6(b) to decide this appeal. We reverse.

The Invention

Appellants invented a workflow system for processing an object having a plurality of tasks, wherein one of said tasks is first executed. The workflow system determines whether any side effect action was performed by an external component, where the side effect action results from executing said task. If it is determined that the side effect action ensues from executing an eligible/necessary task, the workflow system uses eager execution to process the task. (Specification 2-3).

An understanding of the invention can be derived from exemplary independent claim 1, which reads as follows:

1. A method for operation of a workflow system for processing an object by executing a plurality of tasks, one or more of said tasks each having one or more associated enabling conditions indicating whether the task is to be executed for said object, and wherein execution of at least one of said tasks results in initiation of a side-effect action performed by a component external to said workflow system, said method comprising the steps of:

determining whether a task is eligible for eager execution by considering at least (1) a state of the task and (2) whether execution of the task results in the initiation of a side-effect action: and

executing the task using eager execution if the task is determined to be eligible for eager execution.

In rejecting the claims on appeal, the Examiner relies upon the following prior art:

| | | |
|-------------|-----------------|---------------|
| Smith | US 5,561,762 | Oct. 1, 1996 |
| Van Praet | US 5,854,929 | Dec. 29, 1998 |
| Boutaud | US 6,253,307 B1 | Jun. 26, 2001 |
| Borkenhagen | US 6,697,935 B1 | Feb. 24, 2004 |

The Examiner rejects the claims on appeal as follows:

- A. Claims 1 through 21 stand rejected under 35 U.S.C. § 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter, which applicant regards as the invention.
- B. Claims 1 through 3, 5, 9, 12 through 14, and 16 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Borkenhagen.
- C. Claims 4, 6 through 8, 15, and 17 through 19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Borkenhagen and Boutaud.
- D. Claims 10, 11, 20, and 21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Borkenhagen and Van Praet and Smith.

First, Appellants contend that claims 1 through 21 are not indefinite since the Specification teaches that the execution of a task in the workflow system results in initiating a side-effect action performed by an external component. (App. Br. 5, Reply Br. 3.) In response, the Examiner submits that Appellants' disclosure is devoid of any indication as to where the task is being executed in the workflow system or what part of the workflow system is performing the processing of the task resulting in initiating the side-effect action. (App. Br. 5, 13, Reply Br. 2.)

Second, Appellants contend that Borkenhagen does not anticipate the invention as recited claims 1 through 3, 5, 9, 12 through 14, and 16. Particularly, Appellants contend that Borkenhagen does not teach or suggest determining whether a task is eligible for eager execution by considering the state of the task, and by determining that the execution of the task results in initiating a side effect action. (Br. 6, Reply Br. 3.). For these same reasons,

Appellants contend that the combination of Borkenhagen, Boutaud, Van Praet and/or Smith does not render claims 4, 6 through 8, 10, 11, 15, and 17 through 21 unpatentable. In response, the Examiner contends that Borkenhagen's disclosure of an external interrupt, that upon activation alters the priority of threads in a multi-threaded processor, teaches the claim limitation. (Answer 13-14.)

ISSUE

The *pivotal* issues in the appeal before us are as follows:

a) Have Appellants shown that the Examiner erred in determining that claims 1 through 21 are indefinite under 35 U.S.C. § 112, second paragraph? Particularly, would an ordinarily skilled artisan not be able to ascertain the scope of claims 1 through 21 given that the claims recite a task performed in a workflow system resulting in initiating a side-effect action performed by an external component?

b) Have Appellants shown that the Examiner failed to establish that the disclosure of Borkenhagen anticipates the claimed invention under 35 U.S.C. § 102(e)? Particularly, does Borkenhagen's disclosure anticipate the claimed invention given that Borkenhagen teaches an external interrupt that upon activation alters the priority of threads in a multi-threaded processor?

FINDINGS OF FACT

The following findings of fact are supported by a preponderance of the evidence.

The Invention

1. Appellants invented a workflow system (100) for processing an object having plurality of tasks, each of which having one or more

associated enabling conditions indicating whether a task is to be executed.
(Specification 12-13.)

2. During the execution of the tasks, at least one executed task in the workflow system results in initiating a side effect action performed by a component (108) external to the workflow system to perform a task. (*Id.* 2, 13-14.)

3. The determination of the state of the task and the indication that its execution results in initiating a side effect action is used in subsequently executing the task using eager execution. (*Id.* 40-41.)

The Prior Art Relied Upon

4. As depicted in Figure 4, Borkenhagen teaches a multi-threaded processor (100) for processing a plurality of thread instructions, which can be independently executed. Each thread includes a state register (442) for storing the state of the thread depending on its execution status. The multi-threaded processor contains a thread switch logic (400) for switching instructions between the threads. The thread switch logic (400) includes a thread switch control register (410) to store the conditions upon which the switch will occur. The thread switch logic (400) is further responsive to a thread switch controller (450) capable of changing the priority of the different threads upon the activation of an external interrupt (290).
(Abstract, col. 20, ll. 35-57.)

ANALYSIS

35 U.S.C. § 112, Second Paragraph Rejection

We begin our analysis by noting that independent claims 1 and 12 both recite that the execution of a task in a workflow system results in initiating a

side-effect action performed by an external component. (App. Br., Claim Appendix.) Our reviewing court has held that the test for definiteness under 35 U.S.C. § 112, second paragraph, is whether “those skilled in the art would understand what is claimed when the claim is read in light of the specification.” *Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 806 F.2d 1565, 1576 (Fed. Cir. 1986). We note that Appellants’ Specification discusses the side effect action as being an action performed by a component external to the workflow system resulting from a previously executed task in the workflow system. (Finding 3.) It is therefore our view that one of ordinary skill in the art at the time of the present invention would have been apprised of the scope of the claimed invention. The ordinarily skilled artisan, having read the Specification, would have readily been apprised of the fact that the claimed side-effect action is an action performed by an external component as a result of a task being performed in the workflow system. Therefore, we fail to find a proper basis on the record before us to warrant the Examiner’s rejection of claims 1 through 21 as being indefinite. Consequently, we reverse this rejection.

35 U.S.C. § 102 Rejection

We now turn to the rejection of claims 1 through 3, 5, 9, 12 through 14, and 16 as being anticipated by Borkenhagen. We find that Borkenhagen’s disclosure does not reasonably teach the limitation of executing a task in a workflow system to result in initiating a side-effect action performed by an external component.

As detailed in the Findings of Fact section above, we have found that Borkenhagen teaches an external interrupt that, upon activation, alters the

processing priority of threads in a multi-threaded system. (Finding 4.) Even though Borkenhagen's external interrupt performs the task of altering the processing priority of the threads in the multi-threaded processor, we find no indication in Borkenhagen that such task is performed by the external interrupt as a result of a task being executed in the multiprocessor.

Therefore, Borkenhagen's task performed by the external interrupt cannot be reasonably construed as being a side-effect action initiated following a task executed in the multiprocessor, as required by the above claims.

It follows that the Examiner erred in rejecting independent claims 1 and 12 as being anticipated by Borkenhagen. We find for these same reasons that the Examiner erred in rejecting dependent claims 2, 3, 5, 9, 13, 14, and 16 as being anticipated by Borkenhagen.

35 U.S.C. § 103 Rejection

We now turn to the rejection of dependent claims 4, 6 through 8, 10, 11, 15, and 17 through 21 as being unpatentable over Borkenhagen, taken in combination with Boutaud, Van Praet and/or Smith under 35 U.S.C. § 103. We find that the cited secondary references fail to cure the deficiencies of Borkenhagen noted above. For these reasons, we find that the combination of Borkenhagen with the cited references does not render the cited claims unpatentable.

CONCLUSION OF LAW

On the record before us, the Examiner has failed to establish that: an ordinarily skilled artisan would not be able to ascertain the scope of claims 1 through 21. Further, the Examiner failed to establish that Borkenhagen's disclosure anticipates claims 1 through 3, 5, 9, 12 through

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14, and 16 under 35 U.S.C. § 102(e). Additionally, the Examiner failed to establish that Borkenhagen's disclosure taken in combination with Boutaud, Van Praet and/or Smith renders claims 4, 6 through 8, 10, 11, 15, and 17 through 21 unpatentable under 35 U.S.C. § 103(a).

DECISION

We have reversed the Examiner's decision rejecting claims 1 through 21.

REVERSED

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